

Bench Mark: Square cut at center of door entrance to 707 W. Harrison St; South side of Harrison St, ±90' west of west line of Des Plaines. Elevation 597.47 BM 1366.  
 A cut in the SE anchor bolt at the 11th street light N. of Roosevelt on the W. side of Halsted. Elev. 594.06 BM 1347.  
 Existing Structure: S.N. 016-1030 was originally built in 1953 as F.A. Route Number 131, Section 2424.23 B. The existing structure consists of 7 spans; 1 approach span of reinforced concrete superstructure and 6 main spans of multi-unit steel continuous multi-beam superstructures. The existing structure has an overall length of 502'-0" and an out-to-out width of 57'-6". The substructure units are founded on sub-piers and consist of 8 multi column piers. The existing bridge is to be removed and replaced.

Traffic Control: Two lanes of traffic will be maintained on existing S.N. 016-1030 (WB I-290) utilizing stage construction.

No Salvage.

**TABLE 1**

	Estimated T/Ground Elev.	Estimated T/Rock Elev.
Pier 1	576.4±	478.70
Pier 2	575.4±	475.50
Pier 3	578.0±	479.10
W. Abut.	586.0±	479.60

**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Bridge Design Specifications 7th Edition

**LOADING HL-93**

Allow 50#/sq. ft. for future wearing surface.

**DESIGN STRESSES**

**FIELD UNITS**

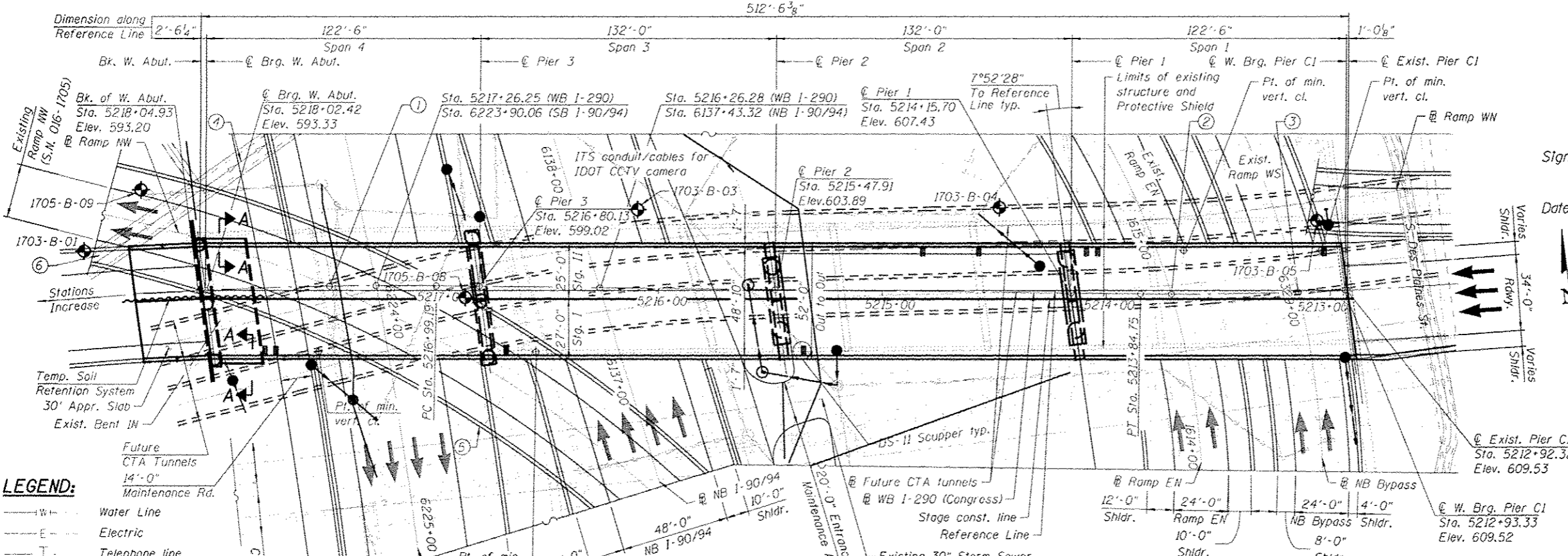
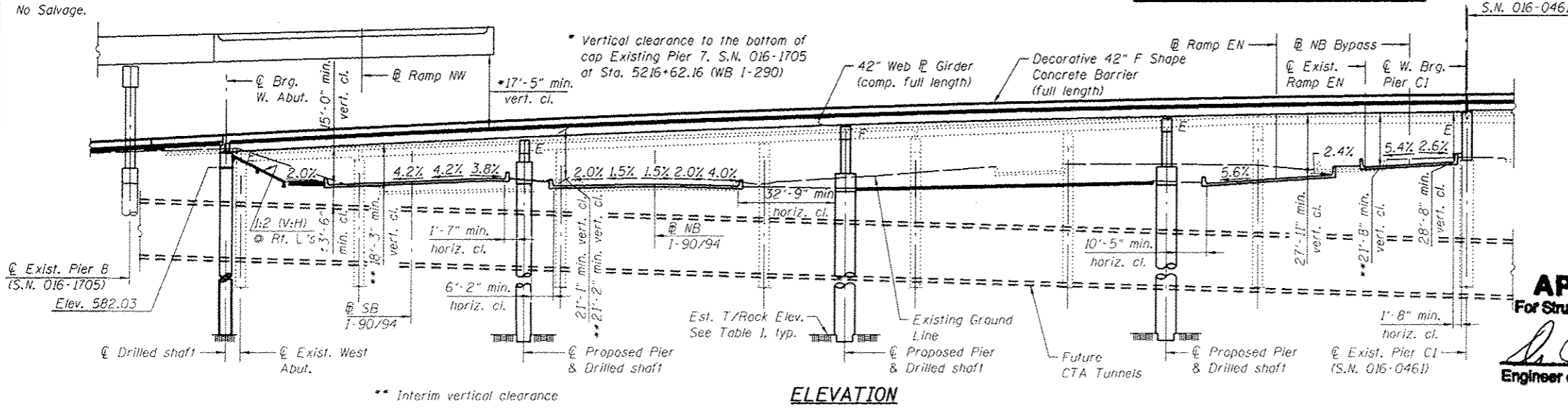
$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (M270 Grade 50)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.085g  
 Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.144g  
 Soil Site Class = D

**SCUPPER LOCATION**

Station	Offset
5213+02.00	20.01' Rt.
5214+04.20	20.91' Rt.
5214+09.20	20.86' Rt.
5214+57.28	20.31' Rt.
5214+82.30	20.02' Rt.
5215+34.72	29.42' Lt.
5216+67.46	30.94' Lt.
5217+71.72	30.55' Lt.
5217+76.72	30.39' Lt.



**LEGEND:**

- W — Water Line
- E — Electric
- T — Telephone line
- CTV — Television line
- — Combined Sewer
- — Storm Sewer
- ⊕ Point of min. vert. cl.
- ⊕ Soil Boring Location

**PARSONS BRINCKERHOFF**

USER NAME: pateld  
 DESIGNED: P.JL  
 CHECKED: J.Z  
 REVISIONS:  
 1. N.T.S.  
 2. 3/23/2016  
 3. JIG

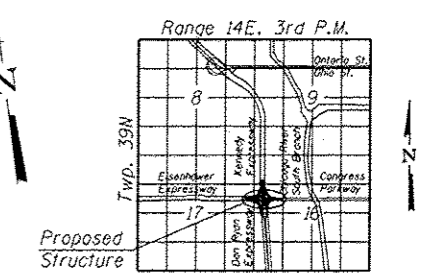
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

- ① Sta. 5217+47.04 (WB I-290)
- ② Sta. 5213+70.91 (WB I-290)
- ③ Sta. 5213+14.24 (WB I-290)
- ④ Exist. Main Drain 7'-2<sup>3</sup>/<sub>8</sub>" x 8'-0" to remain
- ⑤ Exist. Pier 7, S.N. 016-1705
- ⑥ Exist. Pier 8, S.N. 016-1705

**APPROVED**  
 For Structural Adequacy Only  
 Engineer of Bridges & Structures



Signed **Jamal Grainawi**  
 JAMAL I. GRAINAWI, S.E. II, Lic. No. 081-005161  
 Expires 11-30-2016  
 Date **3/18/2016**



**LOCATION SKETCH**

**GENERAL PLAN & ELEVATION**  
**WB I-290 (CONGRESS)**  
**OVER I-90/94**  
**F.A.I. ROUTE 90/94/290**  
**SECTION 2014-004R&B**  
**COOK COUNTY**  
**STATION 5216+26.28**  
**STRUCTURE NO. 016-1703**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	186
CONTRACT NO. 60X78			ILLINOIS FED. AID PROJECT	

Bench Mark: Square cut at center of door entrance to 707 W. Harrison St. South side of Harrison St. ±90' west of west line of Des Plaines. Elevation 597.47. A + cut in the SE anchor bolt at the 11th street light N. of Roosevelt on the W. side of Halsted. Elev. = 594.06.

Existing Structure: S.N. 016-0461 was originally built in 1952 as F.A. Route Number 131, Section 062-2424.4. The existing structure consists of 16 main spans of multi-unit steel continuous multi-beam superstructures with additional entrance and exit ramp spans along Spans 12 and 13. The existing structure has an overall length of approximately 1301'-4" and an average out-to-out width of approximately 162'-0" for the main spans and 25'-0" for the ramp spans. The substructure units are founded on drilled shafts and consist of 17 multi column piers. The existing bridge is to be rehabilitated through a combination of partial removal and replacement, repairs, and partial infill of ramp spans.

Traffic Control: Two lanes of mainline traffic will be maintained utilizing stage construction. Canal Street Entrance Ramp will be closed during stage construction. Ramp traffic will be maintained utilizing stage construction.

Salvage: None

- ① Line perpendicular to I-290
- ② Varies 1.4% to 3.6%

Notes:

1. For Scope of Work and Scupper Table, see sheet S2-2.
2. For I-290 & I-290 Intersect Stationing, see sheet S2-5.
3. For Curve Data and Geometric Layout, see sheet S2-5.
4. For Profile Grades, see sheet S2-6 and S2-7.
5. For Protective Shield limits, see sheet S2-20.
6. Skew is taken from a line normal to I-290.
7. Existing utilities attached to structure will be maintained/relocated during construction.

**DESIGN SPECIFICATIONS**  
 2014 AASHTO LRFD Bridge Design Specifications 7th Edition (Spans 1-3)  
 2002 AASHTO Standard Specifications for Highway Bridges (Spans 4-16)

**DESIGN STRESSES**

**FIELD UNITS (New Construction)**

f'c = 3,500 psi  
 see sheet S2-2.  
 fy = 60,000 psi (Reinforcement)  
 fy = 50,000 psi (M270 Grade 50)

**FIELD UNITS (Exist. Construction)**

f'c = 3,500 psi  
 fy = 60,000 psi (Deck Reinforcement)  
 fy = 40,000 psi (Pier Reinforcement)  
 fy = 33,000 psi (ASTM A7)

**LOADING HL-93**

(SPANS 1-3 & PIER C1 THRU C4)

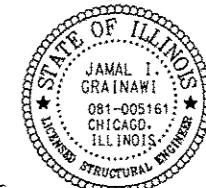
**LOADING HS20-44 &**

**ALT. MILITARY (SPANS 4-16)**

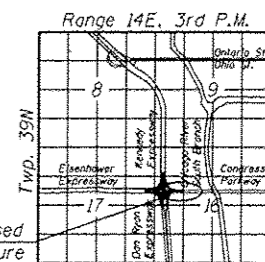
Allow 25#/sq. ft. for future wearing surface

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. (S<sub>dl</sub>) = 0.085  
 Design Spectral Acceleration at 0.2 sec. (S<sub>ds</sub>) = 0.144  
 Soil Site Class = D



Signed *Jamal Grainawi*  
 JAMAL I. GRAINAWI, S.E. H. Lic. No. 081-005161  
 Expires 11-30-2016  
 Date 3/18/2016



**LOCATION SKETCH**

**GENERAL PLAN & ELEVATION - I-290 (CONGRESS) VIADUCT OVER DES PLAINES ST. TO CANAL ST.**

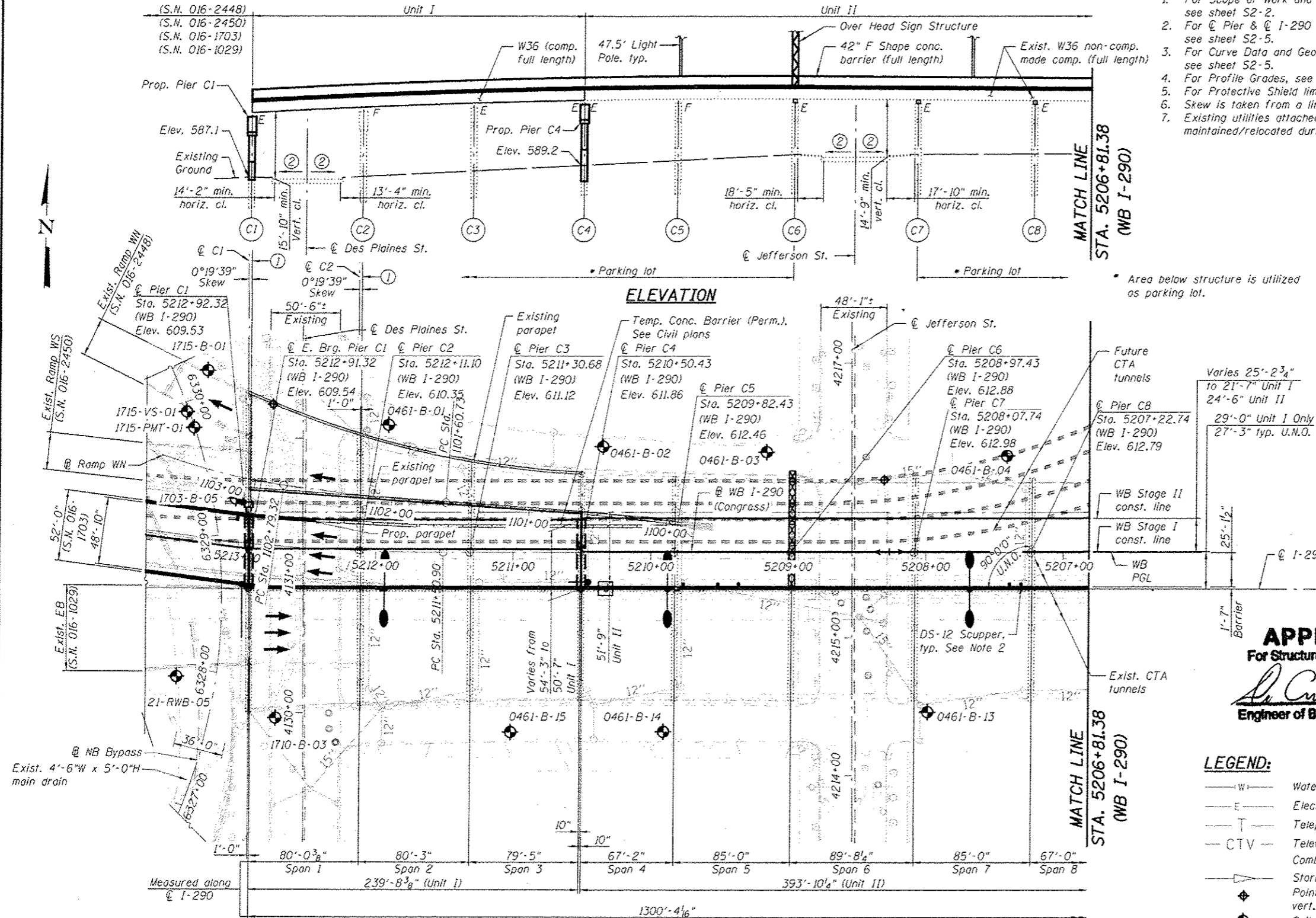
F.A.I. ROUTE 90/94/290  
 SECTION 2014-004 R&B (WB)

2014-004 R&B (WB)

COOK COUNTY

STATION 5165+03.09

STRUCTURE NO. 016-0461



**PLAN**

**LEGEND:**

- W — Water Line
- E — Electric
- T — Telephone line
- CTV — Television line
- CS — Combined Sewer
- SS — Storm Sewer
- ◆ Point of min. vert. cl.
- ◆ Soil Boring Location

**APPROVED**  
 For Structural Adequacy Only  
*De Carl Ruyter*  
 Engineer of Bridges & Structures



USER NAME : doteld	DESIGNED - PUL	REVISED -
PLOT SCALE : N.T.S.	CHECKED - AH	REVISED -
PLOT DATE : 3/23/2016	DRAWN - DCP	REVISED -
	CHECKED - JIG	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B (WB)	COOK	706	278
			CONTRACT NO. 60X78	

Bench Mark: Square cut at center of door entrance to 707 W. Harrison St; South side of Harrison St. ±90' west of west line of Des Plaines. Elevation 597.47.  
 A \* cut in the SE anchor bolt at the 11th street light N. of Roosevelt on the W. side of Halsted. Elev. = 594.06.  
 Traffic Control: Canal Street Entrance Ramp will be closed during construction of the proposed wall. Ramp traffic will be detoured via local roads.  
 Existing Structure: The North & East retaining walls were built in 1953 are part of existing concrete ramp structure that carries Canal St. entrance ramp to WB I-290.  
 The North & East walls are 128'-4 1/4" & 61'-0" in length, respectively. Both walls are to remain in place.  
 No Salvage.

**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Bridge Design Specifications  
 7th Edition with 2015 Interims

**DESIGN STRESSES**

**FIELD UNITS (New Construction)**

f'c = 3,500 psi  
 fy = 60,000 psi (Reinforcement)

**PRECAST UNITS**

f'c = 4,500 psi (Precast Panels)  
 fy = 60,000 psi (Reinforcement)

**LIGHTWEIGHT CELLULAR CONCRETE FILL**

Class IV (District I)  
 As Cast Density 36-42 pcf  
 f'c = 120 psi

**FIELD UNITS (Exist. Construction)**

f'c = 3,500 psi  
 fy = 60,000 psi (Deck Reinforcement)  
 fy = 40,000 psi (Pier Reinforcement)  
 fy = 33,000 psi (ASTM A7)

**APPROVED**  
 For Structural Adequacy Only

*Jamal Grainawi*  
 Engineer of Bridges & Structures

\*\* See Table on sheet S3-2, for Station and Elevation of Existing ground and Proposed grade line at Front Face of wall.

\*\*\* Elevation taken from record drawings provided by Department of Water Management. Field verify as necessary.

Notes:

1. See sheet S3-2, for profile sketches and section C-C.
2. See sheet S3-3, for section thru MSE wall, and section A-A.
3. See sheet S3-4, for section B-B.
4. The cabinet for traffic surveillance loops on the Canal Street entrance ramps near STA 1200+60.00, is attached to the existing structure at the Canal Street entrance ramp. ITS infrastructure shall be relocated, as necessary, to avoid conflict with the proposed MSE wall. See Electrical Plans.
5. The existing water main will remain operational throughout retaining wall and lightweight fill construction. The Contractor shall protect the water main to ensure that damage to the water main is prevented.

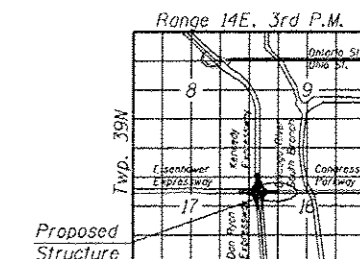
**SCOPE OF WORK**

1. Remove approximately 3'-0" of unsuitable material.
2. Construct a new MSE Wall (S.N. 016-1831) to retain Lightweight Cellular Concrete Fill in the area below the existing concrete ramp structure.
3. Perform concrete repair on existing North retaining wall. Attach Soil Reinforcement to the existing North and East retaining walls that are part of the existing concrete ramp structure.



Signed *Jamal Grainawi*  
 JAMAL I. GRAINAWI, S.E. Il. Lic. No. 081-005161  
 Expires 11-30-2016.

Date 03/17/2016

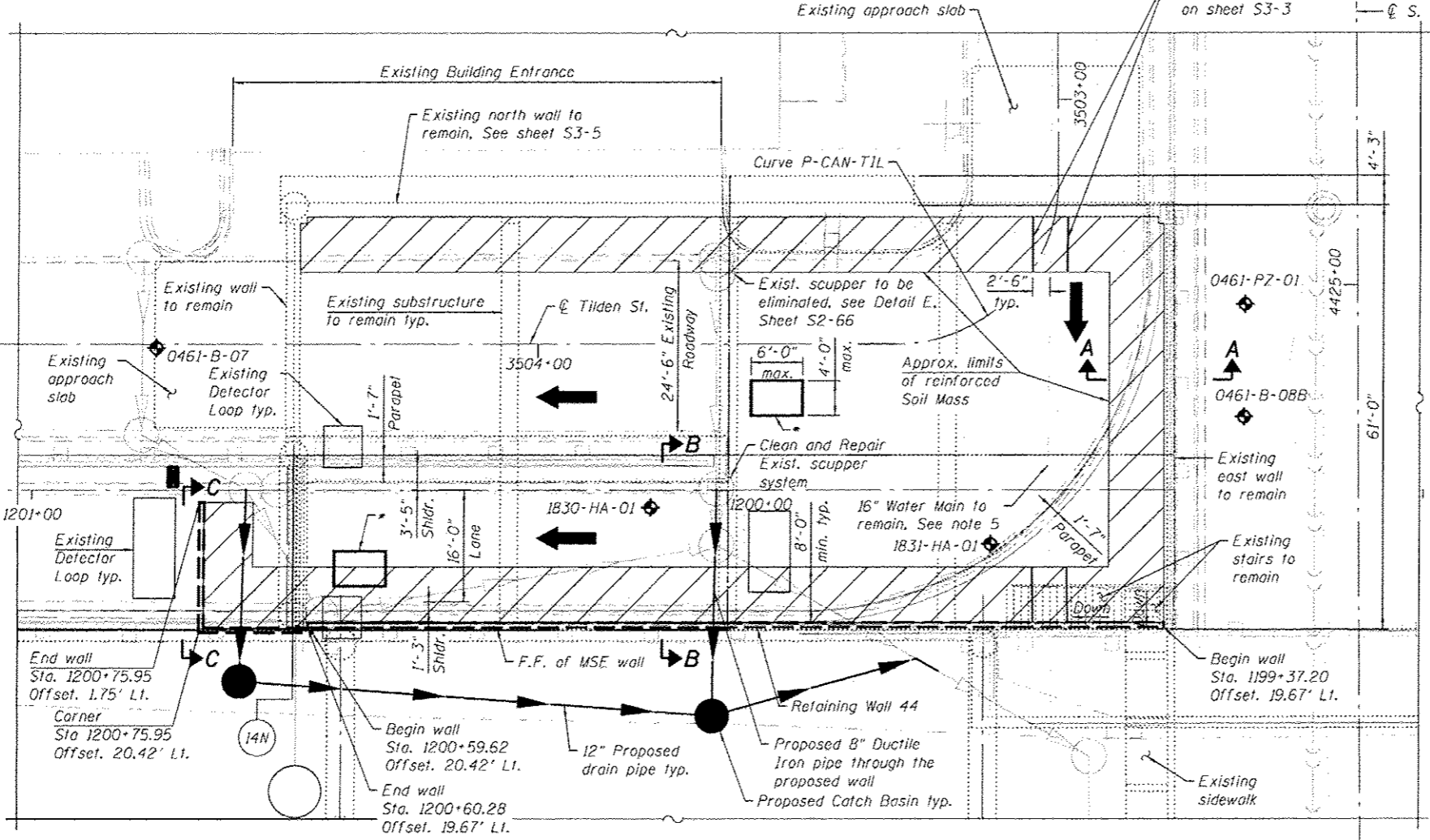
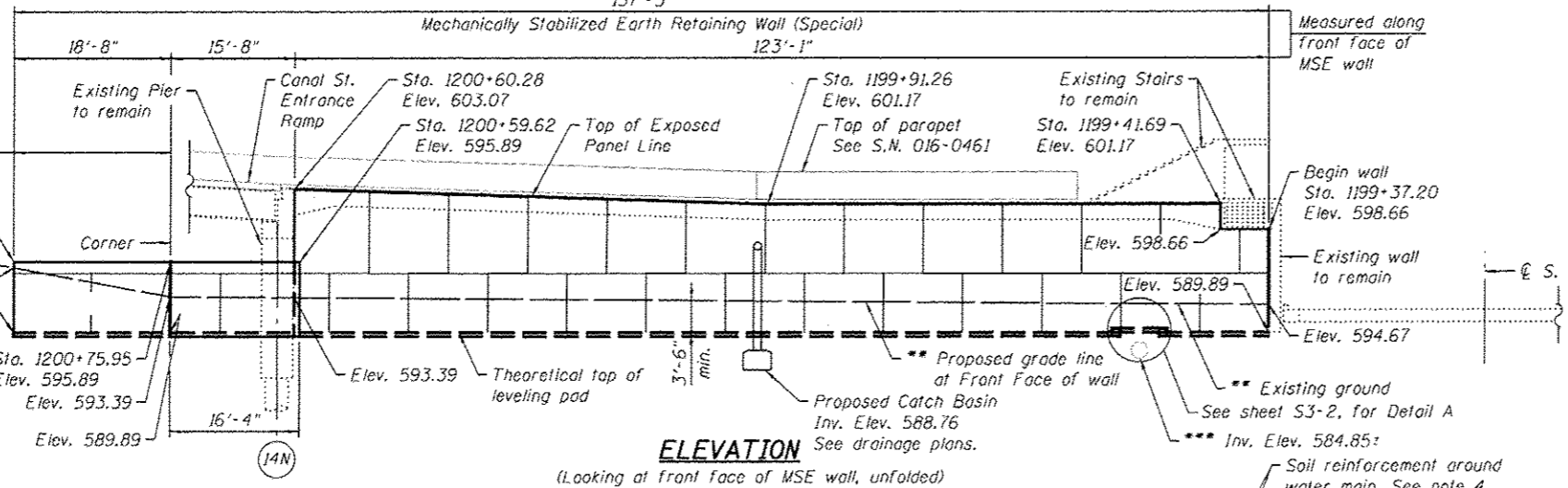


LOCATION SKETCH

**GENERAL PLAN & ELEVATION**  
**RETAINING WALL 44**  
**F.A.I. ROUTE 90/94/290**  
**SECTION 2014-004R&B**  
**COOK COUNTY**  
**STATION 1199+37.20 TO 1200+75.95**  
**STRUCTURE NO. 016-1831**

**LEGEND:**

- Water Line
- Electric
- Telephone line
- CTV
- Combined Sewer
- Storm Sewer
- ⊕ Soil Boring Location
- F.F. Front Face



\* Optional proposed access hole between existing beams to facilitate the construction of the proposed wall. Location and number to be determined by the Contractor and approved by the Engineer. See S.N. 016-0461, S2-65 for details.

Note: Station and offsets are referenced to the Baseline of Ramp WS. Offsets are measured to the front face of the wall.

**PARSONS BRINCKERHOFF**

USER NAME = poteld	DESIGNED - HA	REVISIONS
DESIGNED - HA	CHECKED - MS	REVISIONS
PLLOT SCALE = N.T.S.	DRAWN - DCP	REVISIONS
PLLOT DATE = 3/17/2016	CHECKED - JIG	REVISIONS

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SHEET NO. S3-1 OF S3-9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004R&B	COOK	706	617
CONTRACT NO. 60X78			ILLINOIS FED. AID PROJECT	